

ABSTRACT

A multifunction analog input/output interface for a sound processing system reduces the number of I/O pins and system components by using a speaker as an output device, an input device, and/or a control device. The system includes

5 an integrated circuit containing a multifunction pin for connection to the speaker, an output circuit that drives the speaker, and an input circuit that receives a signal from the speaker when sound or touching the speaker moves a magnet in the speaker. An activation circuit coupled to the multifunction pin, activates an

10 operation of the integrated circuit when the speaker provides a signal above a threshold level. Thus, a single pin serves three functions, sound signal input, sound signal output, and operation activation. The operation activated can be, for example, a playback or record operation. A delay element in the activation circuit prevents reactivation of an operation until vibrations in the speaker from a

15 completed operation have died away. One embodiment of the invention provides an integrated circuit having only three I/O pins but capable of playing back a sound signal recorded in the integrated circuit.

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